

# Practice

Write an inequality for each situation. Use  $x$  for the variable.

1. Noah has fewer than 8 tennis balls.  $x < 8$



Use verbal clues to choose the inequality symbol.

2. Mariposa read at least 45 pages of the book.  $x \geq 45$
3. Jaxon rode no more than 38 miles.  $x \leq 38$
4. Kira spent more than \$85.  $x > 85$

Decide whether the given value is a solution of the inequality. Write yes or no.

5.  $y + 8 < 13$   
 $15 < 13$

Try:  $y \geq 7$

NO

6.  $7n > 105$   $\frac{15}{x7}$   
 $105 > 105$   $\frac{105}{105}$

Try:  $n \geq 15$

NO

7.  $x - 9 \leq 23$   
 $21 \leq 23$

Try:  $x \geq 30$

yes

8.  $\frac{b}{3} > 10$   $\frac{36}{3} > 10$   
 $12 > 10$

Try:  $b \geq 36$

yes

9.  $25 + w \geq 42$   $\frac{17}{x7}$   
 $42 \geq 42$

Try:  $w \geq 17$

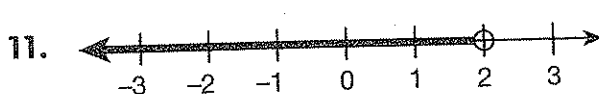
yes

10.  $9s < 72$   $\frac{915}{x7}$   
 $45 < 72$

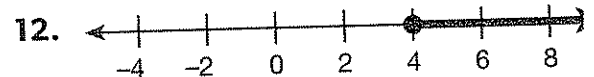
Try:  $s \geq 5$

yes

Write an inequality for each graph. Use  $x$  for the variable.

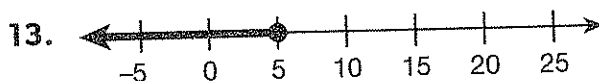


$x < 2$

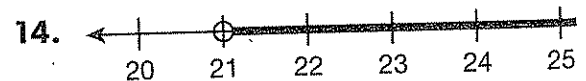


$x \geq 4$

REMEMBER An open circle means that the point is not in the solution set.



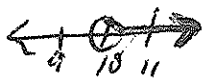
$x \leq 5$



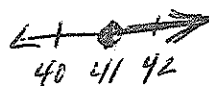
$x > 21$

Solve each inequality. Graph the solution. Use Math Tool: Blank Number Lines.

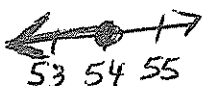
15.  $\frac{2w}{2} > \frac{20}{2}$   
 $w > 10$



16.  $m - 5 \geq 36$   
 $+5 \quad +5$   
 $m \geq 41$



17.  $\frac{6y}{6} \leq 9(6)$   
 $y \leq 54$



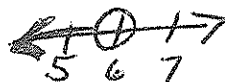
18.  $x + 23 < 50$   
 $-23 \quad -23$   
 $x < 27$



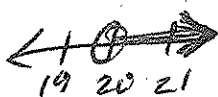
19.  $\frac{9s}{9} \geq \frac{108}{9}$   
 $s \geq 12$



20.  $76 + c < 82$   
 $-76 \quad -76$   
 $c < 6$



21.  $\frac{b - 16}{1} > 4$   
 $+16 \quad +16$   
 $b > 20$



22.  $\frac{5h}{5} \leq 25(5)$   
 $h \leq 125$



Solve.

23. Kareem spent \$8 less than Marco spent at the mall. Kareem spent more than \$15. How much did Marco spend at the mall?

$m - 8 > 15$   
 $+8 \quad +8$   
 $m > 23$

$k > 15$   
 $k = m - 8$  or  $m - 8 = k$   
 $m - 8 > 15$   
 $k > 15$

24. Jamie has 3 times as many pencils as pens. She has at least 18 pencils. How many pens does Jamie have?

$3p \geq 18$   
 $\div 3 \quad \div 3$   
 $p \geq 6$

at least 6 pens

25. **DEDUCE** In which direction on the number line do you draw the solution graph of an inequality that has a  $>$  or a  $\geq$  symbol? In which direction do you draw the solution graph of an inequality that has a  $<$  or a  $\leq$  symbol?

$>$  or  $\geq$  goes to the right

$<$  or  $\leq$  goes to the left

26. **JUSTIFY** How far to the left can you extend the graphs when graphing the solution sets for questions 1 and 3? Explain.

Must stop at zero b/c can't have negative # of tennis balls or make a negative distance